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Application for patent search in accordance with § 44 PatG has been filed.

[54] CAFFEINE-CONTAINING CHEWING GUM PRODUCT

[57] Abstract

The invention relates to a chewing gum product suitable as a substitute for caffeine-containing beverages and caffeine-containing pharmaceutical products. It consists of chewing gum base, caffeine and, optionally, additional conventional chewing gum components, characterized by the fact that caffeine or caffeine-containing substances are dispersed in the chewing gum base. The amount of caffeine, calculated as pure substance as against the weight of the finished product, is 0.5-10 wt%. Because of the stimulant action of caffeine on the cardiovascular system and the central nervous system, this chewing gum product is suitable for combatting fatigue and, as the case may be, migraine headache.

Description

The invention relates to a chewing gum product suitable as a substitute for caffeine-containing beverages and caffeine tablets. It consists of a chewing gum base, caffeine and, optionally, additional conventional chewing gum components, and is characterized by the fact that caffeine or caffeine-containing substances are dispersed in the chewing gum base. The amount of caffeine, calculated as pure substance as against the weight of the finished products, is 0.5-10 wt%.

Caffeine stimulates the cardiovascular system and the central nervous system and thereby combats fatigue. Caffeine is contained particularly in coffee, tea and cola beverages and is also consumed most frequently in this form. The disadvantage of liquid caffeine intake is that it is not always possible, for example, during prolonged automobile trips, and the diuretic action due to the

liquid intake, which is additionally reinforced by the caffeine, which stimulates the kidney function. Further, no exact dosage of the caffeine can be administered in this case.

In the case of caffeine-containing pharmaceuticals, exact dosage of the caffeine can be administered, but this pharmaceutical form is not associated with any enjoyment because of the lack of taste.

The consumption of caffeine by chewing caffeine-containing chewing gum products affords the following advantages in comparison to the above-described options:

a) ease of handling and constant availability (the chewing gum product can be chewed, for example, while riding in an automobile),

b) exact dosages can be administered,

c) no diuretic action

d) taste and enjoyment of chewing,

e) longer-lasting action of the caffeine, because it is released gradually during the chewing process rather than all at once. In contrast, about 80% of the caffeine from coffee is absorbed by the gastrointestinal tract after 30 minutes. (Source: brochure "Kaffee Tee Kakao" [Coffee, Tea, Cocoa], 1989, published by AID).

With regard to the slow release of caffeine during the chewing process, refer to German Auslegeschrift 21 36 118. This document describes a nicotine-containing chewing gum as a smoking substitute. Much of the data obtained from this can be applied to the caffeine-containing chewing gum.

The above-listed advantages can be obtained by incorporating a suitable amount of caffeine into a chewing gum mass. The different types of chewing gum bases and the different chewing gum components are described in detail in German Auslegeschrift 21 36 118.

The caffeine content of a chewing gum could be equal to that of a cup of coffee, which contains 60-80 mg of caffeine on average. (Source: brochure "Kaffee Tee Kakao" [Coffee, Tea, Cocoa], 1989, AID). In commercial chewing gum products, the weight of a chewing gum unit is normally 1-2 g. Since caffeine has a very bitter taste of its own, the proportion of caffeine in the chewing gum mass should not be too high.

Taste tests have shown that a caffeine dose of 60 mg per 2 g of finished product is reasonable. Therefore, this dosage is the basis for the recipes given in the following.

Example 1 (Caffeine-Containing Chewing Gum Product with Spearmint Taste)

chewing gum base	51.0 wt%
sorbitol powder	37.5 wt%
liquid sweetener	5.0 wt%
pyrogenic silica	0.5 wt%
glycerine	1.0 wt%
spearmint oil	2.0 wt%
caffeine powder (anhydrous)	3.0 wt%

Example 2 (Caffeine-Containing Chewing Gum Product with Lemon Flavor)

chewing gum base	50.0 wt%
sorbitol powder	35.5 wt%
liquid sweetener	5.0 wt%
pyrogenic silica	0.5 wt%
glycerine	1.0 wt%
lemon oil	2.0 wt%
ascorbic acid	3.0 wt%
caffeine powder (anhydrous)	3.0 wt%

The products "XYLGUM" and "LEMERY T" by Gum Base Company S.P.A. can be used as the chewing gum bases in the first and second examples, respectively. The pyrogenic silica used can be, for example, the product HDK N 20 by Wacker-Chemie. The liquid sweetener listed in the recipes is a commercial mixture of 10 parts cyclamate and 1 part saccharin. The process for manufacturing the inventive chewing gum product is as follows.

All powdered components (sorbitol powder, pyrogenic silicic acid, ascorbic acid and caffeine) are finely ground and mixed homogeneously.

The chewing gum base is melted in a water bath and stirred until all lumps disappear. The mixture of powdered components and liquid is then added with constant stirring. Finally, the flavoring oils and glycerine are poured in and stirred.

The chewing gum mass thus obtained is cooled, rolled out and cut so that the weight of one chewing gum unit is 2 g.

Claim

Chewing gum product suitable as a substitute for caffeine-containing beverages and caffeine-containing pharmaceuticals, consisting of a chewing gum base, caffeine and, optionally, additional conventional chewing gum components, characterized by the fact that it contains caffeine or caffeine-containing substances dispersed in the chewing gum base, and the proportion of caffeine, calculated as pure substance as against the weight of the finished product, is 0.5-10 wt%.